

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **06 MAY 2005**

Applicant's or agent's file reference

LEMON 02M04W

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US04/35344

International filing date (day/month/year)

22 October 2004 (22.10.2004)

Priority date (day/month/year)

23 October 2003 (23.10.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): A61C 1/07 and US Cl.: 433/86

Applicant

BOARD OF SUPERVISORS OF LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MEDICAL COLLEGE

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

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**WRITTEN OPINION OF THE
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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ in written format
- ☐ in computer readable form
- c. time of filing/furnishing
- ☐ contained in international application as filed.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>10-12, 14-16, 20-21</u>	YES
	Claims <u>1-9, 13, 17-19</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-21</u>	NO
Industrial applicability (IA)	Claims <u>1-21</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

Express Mail No. EV854030815

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 1, 3-5, 13, and 17-19 lack novelty under PCT Article 33(2) as being anticipated by Himeno et al. Himeno et al. disclose a tip for an ultrasonic tool comprising a tool tip holder B and a tool tip A having a fixation end 3 and a treatment section 2. The tool tip holder comprises an irrigation spout 1d, a transmitting end 1b and a coupling end 1a. The tool tip can take various forms including an abrasive burr (see col. 8, lines 1-15).

Claims 1, 3, 4, 6, 7, 9, 13, and 17-19 lack novelty under PCT Article 33(2) as being anticipated by Hickok et al. Hickok et al. disclose a tip for an ultrasonic tool comprising a tool tip holder 54 and a tool tip 50 having a fixation end 56 and a treatment section. The tool tip holder comprises an irrigation spout, a transmitting end 54a and a coupling end 54b. The tool tip includes an abrasive burr having a round end burr shape. The tool tip further may include a cutting surface 24,68 and a non-cutting surface 72 having a dampener 60.

Claims 1, 2, 4 and 5 lack novelty under PCT Article 33(2) as being anticipated by Friedman et al. Friedman et al. disclose a tip for an ultrasonic tool comprising a tool tip holder 44 and a tool tip 12 having a fixation end and a treatment section 52 fixedly attached thereto. The tool tip holder comprises an irrigation spout 50, a transmitting end and a coupling end 48 (see figures 1-4).

Claims 1, 3, 4, 9 and 13 lack novelty under PCT Article 33(2) as being anticipated by Martin. Martin discloses a tip for an ultrasonic tool comprising a tool tip holder 12 and a tool tip 20 having a fixation end and a treatment section 22. The tool tip holder comprises an irrigation spout 56, a transmitting end 50 and a coupling end 45. the tool tip comprises an abrasive burr.

Claims 1-5 and 8 lack novelty under PCT Article 33(2) as being anticipated by Winston. Winston disclose a tip for an ultrasonic tool comprising a tool tip holder 16 and a tool tip 60,70 having a fixation end and a treatment section. The tool tip holder comprises an irrigation spout 50, a transmitting end 52 and a coupling end 54.

Claims 10-12, 14-16, 20 and 21 lack an inventive step under PCT Article 33(3) as being obvious over Hickok et al. To use zirconia, diamonds or steel chips as the abrasive material on the device of Hickok et al. would not have involved an inventive step as these are well known abrasive materials. Regarding claims 20 and 21, to use the device of Hickok et al. with a vibrating tool which vibrates at 5,000-20,000 Hz or 20,000-30,000 Hz would not have involved an inventive step as such vibrating tools are old and well known in the dental field for use with tips such as disclosed by Hickok et al.

Claims 5-8,10-12, and 14-21 lack an inventive step under PCT Article 33(3) as being obvious over Martin. Martin discloses that the tool tip holder may be used with various other dental tool tips known in the art and thus to use it with a periosteal elevator, curette, bur, round end tapered bur, flat end cylinder bur, round end bur, root elevator, or root tip elevator would not have involved an inventive step. Regarding claims 10-12 and 14-16, to use zirconia, diamonds or steel chips as an abrasive material on dental bur would not have involved an inventive step as these are well known abrasive materials. Regarding claims 20 and 21, to use the device of Hickok et al. with a vibrating tool which vibrates at 5,000-20,000 Hz or 20,000-30,000 Hz would not have involved an inventive step as such vibrating tools are old and well known in the dental field for use with tips such as disclosed by Hickok et al.

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In case the space in any of the preceding boxes is not sufficient.

Claims 1-21 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in dental industry.

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